U.S. Department of Justice
Drug Enforcement Administration
Office of Forensic Sciences

The U.S. Attorney General has determined that the publication of this periodical is necessary in the transaction of the public business required by the Department of Justice. Information, instruction, and disclaimers are published in the January issues.

– MARCH 2012 –

SELECTED REFERENCES

[The Selected References section is a compilation of recent publications of presumed interest to forensic chemists. Unless otherwise stated, all listed citations are published in English. Abbreviated mailing address information duplicates that which is provided by the abstracting service. Patents and Proceedings are reported only by their *Chemical Abstracts* citation number. For full text copies of any of the articles listed, you may email the DEA Library at dea.library@usdoj.gov.]

1. Brandt SD, Tearavarich R, Dempster N, Cozzi NV, Daley PF. **Synthesis and characterization of 5-methoxy-2-methyl-N,N-dialkylated tryptamines.** Drug Testing and Analysis 2012;4(1):24-32. [Editor's Notes: This study provides ^{1}H and ^{13}C NMR, gas chromatography-electron ionization ion-trap mass spectrometry (GC-EI-IT-MS) and chemical ionization-ion-trap tandem mass spectrometry (CI-IT-MS/MS) data for 13 5-methoxy-2-methyl-N,N-dialkyltryptamines. Contact: Liverpool John Moores University, School of Pharmacy and Biomolecular Sciences, Liverpool, United Kingdom.]

2. Ehleringer JR, Casale JF, Barnette JE, Xu X, Lott MJ, Hurley J. **^{14}C analyses quantify time lag between coca leaf harvest and street-level seizure of cocaine.** Forensic Science International 2012;214(1-3):7-12. [Editor's Notes: Measurements were made on the natural abundance ^{14}C content ($\Delta^{14}C$) of cocaine specimens seized between 2003 and 2009. The objective of this study was to determine the extent to which $\Delta^{14}C$ analyses could quantify the "age" of recent cocaine seizures. Here, "age" of a seized cocaine specimen is defined as the time period between when a coca leaf was harvested in South America and its seizure as cocaine at either the international or domestic street

levels. Based on $\Delta^{14}C$ analyses of seizure specimens, there were no statistically significant differences in the ages of domestic cocaine hydrochloride and cocaine base specimens seized on the streets in different locations across the United States. Between 2007 and 2009, the average age of a street-level cocaine seizure in the United States was 24.6 ± 1.1 months. Cocaine shipment seizures that were in excess of 150 kg during this time period had an average age of 18.2 ± 1.4 months, whereas smaller shipment seizures were significantly older with an average age of 22.3 ± 0.6 months. Analyses of the largest cocaine shipment seizures suggested that these seizures were composed of specimens with different ages, possibly representing accumulations over as much as a 31-month period. Contact: Department of Biology, University of Utah, Salt Lake City, UT 84112, USA.]

3. Gottardo R, Chiarini A, Dal Pra I, Seri C, Rimondo C, Serpelloni G, Armato U, Tagliaro F. **Direct screening of herbal blends for new synthetic cannabinoids by MALDI-TOF MS.** Journal of Mass Spectrometry 2012;47(1):141-146. [Editor's Notes: Twenty-one synthetic cathinones were successfully identified using a matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF MS) method. The MALDI-TOF MS results were confirmed by GC/MS. Contact: University of Verona, Department of Public Health and Community Medicine, Unit of Forensic Medicine, Verona 37134, Italy.]

4. Jankovics P, Varadi A, Toelgyesi L, Lohner S, Nemeth-Palotas J, Balla J. **Detection and identification of the new potential synthetic cannabinoids 1-pentyl-3-(2-iodobenzoyl)indole and 1-pentyl-3-(1-adamantoyl)indole in seized bulk powders in Hungary.** Forensic Science International 2012;214(1-3):27-32. [Editor's Notes: Presents title study. Contact: Zrinyi u. 3, National Institute of Pharmacy, PO Box 450, Budapest H-1051, Hungary.]

Additional References of Possible Interest:

1. Deconinck E, Verlinde K, Courselle P, De Beer JO. **A validated ultra high pressure liquid chromatographic method for the characterization of confiscated illegal slimming products containing anorexics.** Journal of Pharmaceutical and Biomedical Analysis 2012;59:38-43. [Editor's Notes: A validated UHPLC-DAD method for the identification and quantification of pharmaceutical preparations containing sibutramine, modafinil, ephedrine, nor-ephedrine, metformin, theophylline, caffeine, diethylpropion, and orlistat is presented. Contact: Division of food, Medicines and Consumer Safety, Section Medicinal Products, Scientific Institute of Public Health (IPH), B-1050 Brussels, Belgium.]

2. Elie L, Baron M, Croxton R, Elie M. **Microcrystalline identification of selected designer drugs.** Forensic Science International 2012;214(1-3):182-188. [Editor's Notes: A microcrystalline test for the detection of 5,6-methylenedioxy-2-aminoindane (MDAI), 4-methylmethcathinone (mephedrone), and benzylpiperazine (BZP) using aqueous solutions of mercury chloride is described. Contact: University of Lincoln, School of Natural and Applied Sciences, Lincoln, United Kingdom.]

3. Elie MP, Baron MG, Birkett JW. **Injection port silylation of γ-hydroxybutyrate and trans-hydroxycrotonic acid: Conditions optimization and characterization of the di-tert-butyldimethylsilyl derivatives by GC-MS.** Analyst 2012;137(1):255-262. [Editor's Notes: Presents title study. Contact: School of Life Science, University of Lincoln, Lincoln, United Kingdom.]

4. Thevis M, Kuuranne T, Geyer H, Schaenzer W. **Annual banned-substance review: Analytical approaches in human sports drug testing.** Drug Testing and Analysis 2012;4(1):2-16. [Editor's Notes: Presents title review. Contact: German Sport University Cologne, Center for Preventive Doping Research - Institute of Biochemistry, Germany.]

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THE DEA FY 2012 STATE AND LOCAL FORENSIC CHEMISTS SEMINAR SCHEDULE

The FY 2012 schedule for the State and Local Forensic Chemists Seminar is as follows:

June 11-15, 2012
September 10-14, 2012

The school is open only to forensic chemists working for law enforcement agencies. It is intended for chemists who have completed their agency's internal training program and have also been working on the bench for at least one year. There is no tuition charge. The course is held at the Hyatt Place Dulles North Hotel in Sterling, Virginia (near the Washington/Dulles International Airport). A copy of the application form is reproduced on the last page of this issue of *Microgram Bulletin*. Completed applications should be mailed to the Special Testing and Research Laboratory at 22624 Dulles Summit Court, Dulles, VA 20166. For additional information, email DEA-Forensic.Chemist.Seminar@usdoj.govDEA-Forensic.

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SCIENTIFIC MEETINGS

Title: Mid-Atlantic Association Forensic Scientists 2012 Annual Meeting
Sponsoring Organization: Mid-Atlantic Association Forensic Scientists
Inclusive Dates: May 14-18, 2012
Location: Turf Valley Resort (Ellicott City, MD)
Contact Information: See website
Website: www.maafs.org

Title: Society of Forensic Toxicologists 42nd Annual Meeting
Sponsoring Organization: Society of Forensic Toxicologists Inc.
Inclusive Dates: July 1-6, 2012
Location: Boston Marriott Copley Place – Back Bay (Boston, MA)
Contact Information: See website
Website: www.soft2012.org

DEA State and Local Forensic Chemist Seminar Application

Name: (PRINT NAME EXACTLY AS IT IS TO APPEAR ON CERTIFICATE)	Title:

Employer:

Your Office Mailing Address (include city, state, and zipcode):	Length of Service:

Business Telephone: ( ) -	Business Fax: ( ) -	Date of Application:

Email Address:

Education

College or University	Degree	Major

Please Check Which Techniques or Equipment Are Used in Your Laboratory

	Color Tests		UV
	Column Chromatography		IR
	Microcrystal Tests		CE
	Thin Layer Chromatography		GC/MS
	GC		Other (please specify)
	HPLC		Other (please specify)

Indicate Analytical Problem(s) Nominee Would Like to Have Covered:

Choice of Seminar Dates:
1st Choice: 2nd Choice:

Laboratory Chief/Director:

Printed Name:_____ Signature: _____

Title: _____ Date: _____

Phone: _____